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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SPECTOR, LORRAINE	

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,083	ASHKENAZI ET AL.	
	Examiner	Art Unit	
	Lorraine Spector, Ph.D.	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 58-77 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 58-77 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3/5/02, 4/.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Part III: Detailed Office Action

Claims 58-77 are pending and under consideration.

Formal Matters:

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The disclosure is objected to because of the following informalities:
Applicants are advised that the ATCC has moved from Rockville, MD to Manassas, VA, effective March 23, 1998. The correct address is now:

American Type Culture Collection
10801 University Boulevard
Manassas, VA 20110-2209

Appropriate correction is required.

IDS:

The information disclosure statement, filed 4/30/2002, has been considered. The BLAST results demonstrate that applicants are aware of nucleic acids with identity/homology to the one claimed herein. However, as the BLAST results do not give sufficient identifying information, the Examiner cannot determine if said sequences constitute prior art.

Priority Determination:

The utility for the claimed nucleic acids is based upon Example 126, at page 351, in which it is shown that the polypeptide encoded by the protein is active in a chondrocyte redifferentiation assay. The earliest disclosure of this result that can be confirmed by the Examiner is in US Application 09/918585, filed 7/30/01. It is suspected that priority may exist in PCT/US99/28313 or PCT/US00/04341. Applicants are requested to provide a copy of that portion of each application which contains the chondrocyte redifferentiation assay in response to this office action to allow a proper priority determination. Accordingly, priority is set at 7/30/01, with possible priority to 11/30/99 or 2/18/00, pending review of the PCT applications.

Should the applicant disagree with the examiner's factual determination above, it is incumbent upon the applicant to provide the serial number and specific page number(s) of any parent application filed prior to the date recited above which specifically supports the particular claim limitation for each and every claim limitation in all the pending claims which applicant considers to have been in possession of and fully enabled for prior to that date.

Objections and Rejections under 35 U.S.C. §112:

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 58-77 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims that recite "the extracellular domain" of the protein are indefinite as no extracellular domain has been described. Therefore, the metes and bounds of the claims cannot be determined. For example, see Claim 58-63, parts (c) and (d). Further, if the protein had an extracellular domain, the recitation of "the extracellular domain"..."lacking its associated signal sequence" (claim 58, part (d), for example) is indefinite as a signal sequence is not generally considered to be part of an extracellular domain, as signal sequences are cleaved from said domains in the process of secretion from the cell.

Claims that recite that the claimed nucleic acid "hybridizes to" another sequence, such as claim 71, are indefinite as there is no limiting definition of such in the specification, and the metes and bounds of that which will hybridize are dependent upon the conditions under which the hybridization is performed. As the metes and bounds of what will hybridize to a given sequence are entirely dependent upon the conditions of hybridization and washing, the metes and bounds of the claims cannot be determined. With respect to claim 72, although the further limitation that the hybridization conditions are "stringent" is introduced, the term "stringent conditions" is also a relative term, and the metes and bounds of the claim cannot be determined.

The remaining claims are rejected for depending from an indefinite claim.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 58-62 and 71-77 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the nucleic acid of SEQ ID NO: 399 or fragments of such that are usable as hybridization probes, or nucleic acids which encode the protein of SEQ ID NO: 400 or fragments thereof that are useful for making antibodies or have chondrocyte redifferentiation activity, does not reasonably provide enablement for nucleic acids 80, 85, 90, 95 or 99% identical to such, nor which encode a protein 80, 85, 90, 95 or 99% identical to the protein of SEQ ID NO: 400, nor nucleic acids which hybridize to any of the above. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

The factors considered when determining if the disclosure satisfies the enablement requirement and whether any necessary experimentation is "undue" include, but are not limited to:

1) nature of the invention, 2) state of the prior art, 3) relative skill of those in the art, 4) level of predictability in the art, 5) existence of working examples, 6) breadth of claims, 7) amount of direction or guidance by the inventor, and 8) quantity of experimentation needed to make or use the invention. In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

The claims are directed to isolated nucleic acids having at least 80% identity to a SEQ ID NO: 399 or that encode the protein of SEQ ID NO: 400 with or without its signal peptide, or which encode the extracellular domain of SEQ ID NO: 400 with or without its signal peptide, or nucleic acids at least 80% identical to such encoding nucleic acids. Dependent claims are directed to vectors and host cells comprising the isolated nucleic acids. The specification contains numerous asserted utilities including use as hybridization probes, in chromosome and gene mapping, in the generation of anti-sense RNA and DNA, to identify molecules that bind to PRO (including agonists and antagonists), to make "knock-out" mice or other animals, in gene therapy, as molecular weight markers, therapeutic agents, and for the production of antibodies. None of these asserted utilities is specific for the disclosed PRO526 nucleic acids or protein, as

each of the aforementioned utilities could be asserted for any naturally occurring protein, and further, as none of the asserted utilities requires any feature or activity that is specific to the disclosed PRO526.

Because the claimed nucleic acids are described at least in part in terms of the protein that might be encoded, the scope of the protein itself must be considered: The specification teaches that PRO526 has (unspecified) homology to proteins having leucine rich repeats, for example see pages 32 and 287. The structure of the putative PRO526 peptide is not discussed at page 287 as having a leucine zipper motif, a putative glycosaminoglycan attachment site, putative N-glycosylation sites, and a von Willebrand factor domain. There is no disclosure that the protein is expected to be a transmembrane protein, nor of any extracellular domain.

The sole disclosed utility that is determined by the Examiner to meet the requirements of 35 U.S.C. §101 is the use of the protein in stimulating chondrocyte redifferentiation. It is noted that the specification discloses that PRO526 protein gave positive results in three assays, the *in vivo* antiproliferation assay (Example 113, assay 161, page 328), stimulation of heart neonatal hypertrophy (assay 1, page 348), and in the chondrocyte redifferentiation assay (assay 110, page 351). However, only the latter assay is indicative of utility. The asserted utility of the claimed PRO526 protein as a possible chemotherapeutic agent based on the antiproliferation assay is not considered to be specific, substantial and credible, for the following reasons: Monks et al., Journal of the National Cancer Institute, vol. 83(11):757-766, cited by applicants at page 328, disclose and explain the screen itself, including how the screen is performed, and what cell lines are used. The 60 cell lines are independent isolates representing seven distinct types of cancer, namely lung cancer (13 cell lines), renal cancer (9 cell lines), colon cancer (9 cell lines), melanoma (9 cell lines), CNS cancer (8 cell lines), ovarian cancer (6 cell lines), and leukemia (6 cell lines). The specification, at pages 328-330, discloses that PRO526 tested positive in 7 cell lines, representing colon, melanoma, ovarian, prostate, NSCL, CNS and renal cancers. As the Monks et al. disclosure does not disclose any NCSL or prostate cancer cell lines as being in the panel, it is not clear to what cell lines applicants refer as representing NCSL or prostate cancer, nor whether such lines are recognized as being part of the screening system. It is also noted that the composition of the NCI panel is not static, as Shi et al., referenced below, disclose a different set of 60 cell lines than that disclosed by Monks et al. Further, the results in the specification

seem to indicate the PRO326 was active against a minority of the cell lines for any given cancer, for example against one of nine colon cancer lines, two of nine melanoma lines, one of six ovarian lines, one of eight CNS lines, and two of nine renal cell lines. Therefore, there is no discernable pattern of activity, i.e. the protein does not appear to be active against any particular type of cancer, nor against anything approaching a majority of the cell lines for any given type of cancer. Since PRO526 does not appear to give significant results when tested against the NCI panel, the implicit assertion of utility for the protein (and by extension nucleic acids encoding such) as an anti-cancer agent is not specific, as such could be asserted for almost any protein, which would be toxic for one or more cell types at some concentration. Further, the implicit assertion of anticancer activity is not substantial. Johnson et al. (Brit. J. Cancer 84(10):1424-1431), in an article entitled "Relationships between drug activity in NCI preclinical in vitro and in vivo models and early clinical trials", state, with regard to the NCI panel that "Agents selected on the basis of potency, selective activity against a particular disease category, and/or differential activity against a few specific cell lines were then evaluated against a small number of sensitive human tumours in the nude mouse xenograft model (citations omitted) as a basis for selecting compounds for further preclinical development. Owing to the large numbers of molecules emerging from the in vitro screen as candidates for xenograft testing, in 1995 this development path was further modified to include a hollow fibre (HF) assay, activity in which was a prerequisite for study in classical xenograft models" (page 1424, second column). Thus, the initial screen against the 60 cell lines of the NCI panel is not considered by the art to be predictive of *in vivo* activity against tumors, and, as characterized by Johnson et al., such is merely the first of a three-part protocol for identification of agents to be tested in vivo. Further, Shi et al., (J. Chem. Inf. Comput. Sci. 40:367-379), clearly state that "Although cell growth inhibitory activity for a *single* cell line is not very informative, activity *patterns* across the 60 cell lines can provide incisive information on the mechanisms of action of screened compounds...." (abstract). The paper, drawn to methods of mining and visualizing the large amounts of data generated by the NCI panel, further states that relative activity levels distinguish better among the tested cell lines than do the GI_{50} activity patterns, and that "The mean zero preprocessing procedure seemed to eliminate the noninformative "inherent" cytotoxicity, thus brining out the informational differential cell responses (p. 377, end of first column). Thus, Shi et al. indicates

that the art does not consider the raw GI_{50} data are insufficient to identify compounds that are likely to be antitumor candidates to be tested further. Accordingly, the implicit assertion of utility as an anti-cancer agent is not substantial, as the art does not support that mere identification of killing of 7 of 60 NCI panel cell lines would be predictive of anti-tumor activity, and thus would not constitute a substantial and credible utility for PRO526 and by extension nucleic acids encoding such.

With respect to assay 1, in which stimulation of heart neonatal hypertrophy was measured, the Examiner is unaware, and the specification does not disclose, what the utility of causing hypertrophy would be; there is no disclosure of which of "various cardiac insufficiency disorders" might be treatable, nor is it recognized that the assay used is predictive of such. At the very best, the assay is an invitation to experiment and find out what disorders might be treatable using PRO526, and how to do so. Such an invitation to experiment is not sufficient to establish nor enable a use for the protein.

The specification also is not enabling of the breadth of claims to nucleic acid molecules that hybridize to the disclosed sequences. It is noted that claims that recite hybridization language are indefinite, and do not recite that the nucleic acid encode a protein, much less one having a specifically disclosed activity. First of all, it is pointed out that the term "hybridize" or "hybridization" generically refers to a process in which a strand of nucleic acid joins or matches up with a complementary strand through the process of base pairing, wherein the process is basically used to locate or identify DNAs encoding specific proteins. It is well established in the art that 15-20 bases have been considered sufficient to achieve this process. The breadth of the claims includes nucleic acids of as little as 10 nucleotides. With these points in mind, it is the Examiners position that giving the Claims their broadest reasonable interpretation, this language reads on an infinite number of possible DNA sequences for which there is not sufficient enablement.

The examples provided in the specification do not provide a representative number of different DNA sequences that would enable a representative number of the above discussed DNA sequences with assurances that they possess or encode proteins having the desired activity, or alternatively can be used as probes or primers for the purpose of amplifying or detecting the

PRO526 gene. The mere recitation of this term, and the definitions provided do not serve as sufficient guidance to enable the breadth of the Claims for the various DNA sequences claimed. See Ex parte Forman, 230 USPQ 546. Since the first paragraph of the statute under 35 U.S.C. 112 requires that there must be an enabling disclosure to support the breadth of the Claims, a review of the specification confirms that the scope of the various DNA sequences that are discussed above have not been enabled. There is but a single nucleic acid disclosed with reference to PRO526, SEQ ID NO: 399. In the absence of sufficient guidance, it would require undue experimentation to enable a commensurate number of the sequences that are encompassed by the Claims.

Claims 58-62 and 71-77 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to polynucleotides having at least 80%, 85%, 90%, 95% or 99% sequence identity with a particular disclosed sequence, or that merely hybridize to a disclosed sequence. The claims do not require that the claimed polynucleotide encode a particular protein, nor that any protein encoded thereby possess any particular biological activity, nor any particular conserved structure, or other disclosed distinguishing feature The specification teaches that PRO526 has (unspecified) homology to proteins having leucine rich repeats, for example see pages 32 and 287. The structure of the putative PRO526 peptide is not discussed at page 287 as having a leucine zipper motif, a putative glycosaminoglycan attachment site, putative N-glycosylation sites, and a von Willebrand factor domain. There is no disclosure that the protein is expected to be a transmembrane protein, nor of any extracellular domain.

To provide evidence of possession of a claimed genus, the specification must provide sufficient distinguishing identifying characteristics of the genus. The factors to be considered include disclosure of compete or partial structure, physical and/or chemical properties, functional characteristics, structure/function correlation, methods of making the claimed product, or any combination thereof. In this case, the only factor present in the claim is a partial structure in the form of a recitation of percent identity. There is not even identification of any particular portion

of the structure that must be conserved. Accordingly, in the absence of sufficient recitation of distinguishing identifying characteristics, the specification does not provide adequate written description of the claimed genus.

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed.*" (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See *Vas-Cath* at page 1116). As discussed above, the skilled artisan cannot envision the detailed chemical structure of the encompassed genus of polypeptides, and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The compound itself is required. See *Fiers v. Revel*, 25 USPQ2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016.

One cannot describe what one has not conceived. See *Fiddes v. Baird*, 30 USPQ2d 1481 at 1483. In *Fiddes*, claims directed to mammalian FGF's were found to be unpatentable due to lack of written description for that broad class. The specification provided only the bovine sequence.

Therefore, nucleic acids comprising the sequence set forth in SEQ ID NO:399 or encoding the protein of SEQ ID NO: 400 or active or antigenic fragments thereof, with or without the portion encoding the signal sequence, or fragments thereof sufficiently long to be used as hybridization probes but not the full breadth of the claims meet the written description provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115).

Deposit requirement:

Claims 58-63 and 70-77 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled

in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The deposit of biological organisms is considered by the Examiner to be necessary for enablement of the current invention (see 37 C.F.R.§1.808(a)). Examiner acknowledges the deposit of organisms under accession number ATCC 209704 under terms of the Budapest Treaty on International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure in partial compliance with this requirement. However, in order to be fully compliant with the requirement, applicants must state that the deposit will be maintained for a term of at lest 30 years *and at least five (5) years after the most recent request for the furnishing of a sample of the deposit was received by the depository.* See 37 C.F.R.§1.806.

Rejections Over Prior Art:

Priority is set at 7/30/01, but may be granted to 11/30/99 or 2/18/00. Accordingly, the rejections below are being set forth with each possible priority date in mind.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 58-62 and 71-77 are rejected under 35 U.S.C. 102(e) as being anticipated by Ruben et al., U.S. Patent Number 6,475,753.

Ruben et al. disclose and claim a protein, SEQ ID NO: 161, that is 99.7% identical to residues 1-361 of SEQ ID NO: 400 of the instant application, having a sole mismatch at residue 135. The nucleic acid encoding the protein, SEQ ID NO: 40, is 97.6% identical to SEQ ID NO: 399 of the instant application at residues 484-2236. Vectors and host cells are discussed beginning at column 188, and include as yeast, bacteria, mammalian cells, and insect cells, especially CHO and COS cells. As percentage identity is calculated relative to the shorter of the two sequences being compared, and as the sequence of Ruben et al. would certainly hybridize under stringent conditions to that of SEQ ID NO: 399, the claimed invention is anticipated by Ruben et al.

58-59 and 70-77 are rejected under 35 U.S.C. 102(e) as being anticipated by Lalgudi et al., U.S. Patent Number 6,476,212. Lalgudi et al. disclose a number of polynucleotides and polypeptides derived from corn ear. SEQ ID NO: 6510 of Lalgudi et al. is 88.7% identical over its entire length (309 nucleotides) to nucleotides 1854-2161 of SEQ ID NO: 399 of the instant application. Vectors, host cells, expression of protein, and production of antibodies are discussed at columns 32-35, for example. As percentage identity is calculated relative to the shorter of the two sequences being compared, and as the sequence of Lalgudi et al. would certainly hybridize under stringent conditions to that of SEQ ID NO: 399, the claimed invention is anticipated by Lalgudi et al.

Claims 58-77 are rejected under 35 U.S.C. 102(e) as being anticipated by Strittmatter, WO 01/51520. This disclosure merits priority to the filing date of US Provisional Application 60/207366, filed 5/26/2000.

Strittmatter discloses a protein designated NOGO receptor, having SEQ ID NO: 2, encoded by SEQ ID NO: 1. Strittmatter's SEQ ID NO: 2 is 100% identical to SEQ ID NO: 400. Strittmatter's SEQ ID NO: 1 is 100% identical to the entirety of the coding region of SEQ ID NO: 399. Claims are drawn to nucleic acids, vectors, host cells, protein, chimeric proteins, antibodies (monoclonal, polyclonal, humanized) etc. Host cells include bacteria, *E. coli* (page 23), yeast, insect, mammalian, CHO cell, etc. (page 24). Thus, the invention is anticipated by Strittmatter et al.

Claims 58-77 are rejected under 35 U.S.C. 102(e) as being anticipated by Fraser et al., WO 01/09162. This disclosure merits priority to the filing date of US Application 09/365164, filed 7/30/1999.

Fraser discloses a nucleic acid, having SEQ ID NO: 73, which they designate human TANGO 393 (page 73). Fraser's SEQ ID NO: 73 is 99.9% identical to SEQ ID NO: 399, nucleotides 475-2236, which comprises the entire coding sequence, and in fact is 100% identical to the entirety of the coding region of SEQ ID NO: 399. Claims are drawn to nucleic acids, vectors, host cells, protein, chimeric proteins (see page 113), antibodies (including monoclonal) etc. Polyclonal and monoclonal antibodies are also disclosed at apge 117, chimeric and humanized antibodies at page 119. Host cells include bacteria, *E. coli* (page 23), yeast, insect, mammalian, etc. (page 127). Thus, the invention is anticipated by Fraser et al.

Claims 58-77 rejected under 35 U.S.C. 102(a) or (b) as being anticipated by Hu et al., BAC clone b44p24.

As shown by result 9 of the accompanying alignment, Hu et al. submitted to GenEMBL a nucleic acid sequence comprising a region of 100% identity to bases 534-2231 of SEQ ID NO: 399 on 5/27/99. This encompasses the coding region in its entirety. Accordingly, the claims are anticipated by the disclosure of Hu et al. The reference states that the sequence was obtained

from a BAC clone (bacterial artificial chromosome), which would have been in a host cell, and would have had control sequences sufficient to control replication. Accordingly, the claims are anticipated by the sequence of Hu et al.

Conclusion:

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Lorraine M. Spector, whose telephone number is (703) 308-1793. Dr. Spector can normally be reached Monday through Friday, 9:00 A.M. to 5:30 P.M. ***Effective 1/21/2004, Dr. Spector's telephone number will be 571-272-0893.***

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Dr. Gary L. Kunz, at (703)308-4623. ***Effective 1/21/2004, Dr. Kunz' telephone number will be 571-272-0887.***

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist at telephone number (703) 308-0196.

Certain papers related to this application may be submitted to Group 1800 by facsimile transmission The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)). NOTE: If Applicant does submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Official papers filed by fax should be directed to (703) 872-9306 (before final rejection) or (703)872-9307 (after final). Faxed draft or informal communications with the examiner should be directed to (703) 746-5228. ***Effective 1/21/2004, Dr. Spector's fax number will be 571-273-0893.***

Lorraine Spector, Ph.D.
Primary Examiner

10/017083.1
1/14/2004